



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,699	06/04/2001	Yoshinobu Suchiro	P 280301 PTGF-01074	9088

909 7590 08/28/2002  
PILLSBURY WINTHROP, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER
----------

TON, ANABEL

ART UNIT	PAPER NUMBER
----------	--------------

2875

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/871,699

Applicant(s)

SUEHIRO ET AL.

Examiner

Anabel M Ton

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1,4,7,10-14,17,18, 20-23,25 are rejected under 35 U.S.C. 102(e) as being anticipated by Koike et al (6,345,903).

3. Koike discloses an insulating base having a plurality of electrical leads including positive and negative leads provided on top and bottom surfaces thereof, an LED chip array arranged on one of said negative leads on said top surface of said insulating base, said LED chip array being electrically connected to said positive and negative leads on said top surface of said insulating base; a first metal connection configured to connect said positive leads on said top and bottom surfaces of said insulating base; and a second metal connection configured to connect said negative leads on said top and bottom surfaces of said insulating base (figure 18).

- A light emitting device comprising: an insulating base having an upper surface and a lower surface; a metal layer provided on the upper surface and the lower surface of the insulating base; a plurality of light emitting elements arranged on the metal layer provided on the upper surface of the insulating base; and a metal connection that connects the metal layers to each other at a position where at least one of the plurality of light emitting elements is disposed (figs 1-20);
- The plurality of light emitting elements comprises a first light emitting element configured to emit light at a predetermined heat amount and a second light emitting element configured to emit light at a lower heat amount than the predetermined heat amount, and the metal connection connects the metal layers to each other at a position where the first light emitting element has been disposed (figs 1-20);
- A light emitting device comprising: a substrate comprising a plurality of leads provided on an insulating base; a plurality of light emitting elements arranged on a base line along a surface of the substrate in a predetermined direction; and a plurality of bonding wires configured to connect the plurality of light emitting elements to the plurality of leads in the predetermined direction or on one side relative to the base line (figs 1-20);
- The substrate comprises a reflection case having an opening provided on a side thereof on which the plurality of light emitting elements are arranged and a seal member comprising a light transparent material configured to fill the opening in the reflection case to seal the plurality of light emitting elements in the reflection

Application/Control Number: 09/871,699  
Art Unit: 2875

case, said opening configured to surround the plurality of light emitting elements and extending toward the side where the plurality of bonding wires are provided (figs 1-20)

- The substrate comprises a reflection case having an opening provided on its side where the plurality of light emitting elements are arranged, so as to surround the plurality of light emitting elements and be positioned toward the plurality of bonding wires; and a seal member comprising a light transparent material filled into the opening in the reflection case which seals the plurality of light emitting elements (figs 1-20);
- The substrate is a printed circuit board with the plurality of leads provided on the insulating base by a circuit printing method (figs 1-20);
- The substrate has a lead frame structure formed by placing a lead frame corresponding to the plurality of leads within a mold and pouring an insulating material into the mold (figs 1-20);
- A light emitting device for driving a plurality of LED chips disposed in an array to emit a mixed light composed of lights emitted from the plurality of LED chips, said light emitting device comprising: an LED chip connection lead provided on the upper surface of an insulating base; a power supply connection lead provided on the lower surface of the insulating base; and a link lead configured to connect the LED chip connection lead to the power supply connection lead between the upper and lower surfaces of the insulating base, wherein the LED chip connection lead comprises a plurality of separate leads connected respectively to

the plurality of LED chips and a common lead connected to the plurality of LED chips by a common connection, the common lead being loaded with the plurality of LED chips and configured to absorb heat generated from the plurality of LED chips (figs 1-20)

•

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2,3,5,6,8,9,15,16,19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike et al.

6. With regards to the positive leads include blue, green and red positive leads arranged at one side of LED chip array, the negative leads include a first common lead arranged at another side of said LED chip array and a second common lead arranged at said one side of said LED chip array, said blue LED chip being connected to said blue positive lead and said second common lead by bonding wires, said green LED chip being connected to said green positive lead and said first common lead by bonding wires, and said red LED chip being connected to said red positive lead by a bonding wire and to said first common lead by a direct contact with a bottom electrode thereto, it would have been obvious to one of ordinary skill in the art at the time the invention was



made to have color coordination between the color of the LED chip and the leads that correspond to it, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use for the purpose of, in this case, distinguishing the color of the LED chip when not in use.

- With regards to the LED chip array comprises blue, green and red LED chips having one arrangement selected from a first arrangement, a second arrangement and a third arrangement, said first arrangement including a green LED chip, a red LED chip, a blue LED chip, a red LED chip and a green LED chip arranged in order in a predetermined direction, said second arrangement including a red LED chip, a green LED chip, a blue LED chip, a green LED chip and a red LED chip arranged in order in said predetermined direction, and said third arrangement including a red LED chip, a blue LED chip, a green LED chip, a blue LED chip and a red LED chip arranged in order in said predetermined direction, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have blue, green, and red LED chips in a predetermined arrangement, since such color arrangements are old and well known in the art to produce a desired light output, especially white light;
- With regards to the metal connection is a through-hole plating and the through-hole plating has a hollow portion filled with metal, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a metal connection with thru hole plating having a hollow portion filled with metal, since applicant has not disclosed that thru hole metal plating solves any stated

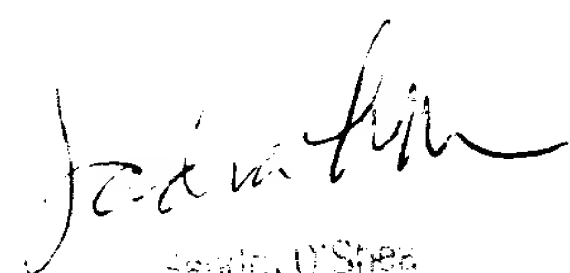
problem or is for any particular purpose and it appears that the invention would perform equally well with the metal connection of Koike;

- With regards to the plurality of light emitting elements comprises one blue light emitting element, one or more green light emitting elements, and two or more red light emitting elements it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a color selection of light emitting elements since it is old and well known to have a predetermined amount of blue, red and green light emitting devices in a lighting device for the purpose of emitting a desired light output from combining a selected combination of light intensities from a desired color selection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anabel M Ton whose telephone number is (703) 305-1084. The examiner can normally be reached on 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
Sandra O'Shea  
Supervisory Patent Examiner  
Technology Center 2800



Application/Control Number: 09/871,699  
Art Unit: 2875

Page 8

Anabel M Ton  
Examiner  
Art Unit 2875

AMT  
August 23, 2002